

REMARKS

In the non-final Office Action dated April 29, 2008, it is noted that claims 1 – 12 are pending in the application.

35 U.S.C. §112

The Office Action rejects claims 7, 8 and 10 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the present amendment, claims 7, 8 and 10 have been amended to obviate this rejection. Withdrawal of the rejection of claims 7, 8 and 10 is respectfully requested.

35 U.S.C. §102

The Office Action rejects claims 1 – 4, 6 and 7 under 35 U.S.C. §102(b) over Fukao et al. (US 6,211,931), hereinafter “Fukao.”

Applicant submits that for at least the following reasons, claims 1 – 4, 6 and 7 are patentable over Fukao.

For example, claim 1 requires:

“A color conversion cell for adjusting a color or color temperature of light from a light source having a first emission spectrum.”

Fukao, Fig. 1, apparently discloses a polymer-dispersed liquid crystal display element. However, Fukao, does not disclose that this display element adjusts the color of the light from the light source. Moreover, Fukao, column 2, line 4, discloses that the polymer-dispersed liquid crystal changes the light intensity when the display element changes from a light scattering state to a transparent state. This strongly suggests that the polymer-dispersed liquid crystal display element taught by Fukao is for adjusting the intensity of the light from the light source, but not the color of the light from the light source. Furthermore, Fukao, column 8, line 17, discloses that there is a light source but does not mention anything about the emission spectrum of the light source. This further suggests that Fukao does not intend to teach or suggest a display element that adjusts the color of the light from the light source. Therefore, Fukao does not disclose the claimed features: a color conversion cell for adjusting a color or color temperature of light from a light source having a first emission spectrum.

In addition, claim 1 also requires:

“the color converting substance having a second emission spectrum different from the first emission spectrum.”

In the Office Action, page 3, it is argued that the color converting substance having a second emission spectrum different from the first emission spectrum is intrinsic to any two different substances. However, this statement is not supported by any evidence. In fact, Fukao, column 8, line 17, discloses that there is a light source but does not show the light source or mention anything about the substance that makes up the light source. Therefore, Fukao, does not teach or suggest that the substance in the display element is different from the substance in the light source. Since there is no teaching that the substance in the display element is different from the substance in the light source, there is no basis to draw the conclusion that Fukao teaches the claimed features: the color converting substance having a second emission spectrum different from the first emission spectrum.

Furthermore, claim 1 requires:

*“the color conversion cell being shiftable between at least a first state wherein the color converting substance will
absorb a first ratio, A1, of light incident on the cell,
emit light with the second emission spectrum, and
transmit a second ratio, T1, of light incident on the cell.”* (Emphasis added)

Fukao, column 5, lines 29 – 58, apparently discloses a dichroic dye that has different absorptivity coefficients depending on its orientation. However, Applicant submits that Fukao does not teach or suggest that the dichroic dye emits any light. Therefore, Fukao fails to disclose the claimed features: the color conversion cell being shiftable between at least a first state wherein the color converting substance will absorb a first ratio, A1, of light incident on the cell, emit light with the second emission spectrum, and transmit a second ratio, T1, of light incident on the cell.

In view of at least the foregoing reasons, Applicant submits that claim 1 is patentable over Fukao. Claim 2 – 4, 6 and 7 are patentable at least because they depend from claim 1, with each claim containing further distinguishing features. Withdrawal of the rejection of claims 1 – 4, 6 and 7 under 35 U.S.C. §102(b) is respectfully requested.

The Office Action rejects claim 5 under 35 U.S.C. §102(b) over Feenstra et al. (US 2005/0104804), hereinafter “Feenstra.”

Applicant submits that for at least the following reasons, dependent claim 5 is patentable over Feenstra.

For example, claim 5 requires:

“A color conversion cell for adjusting a color or color temperature of light from a light source having a first emission spectrum.”

Feenstra, Fig. 5, apparently discloses a color display which changes color when a voltage is applied. However, Applicant submits that, in Feenstra, the color changes occur in the display device, not do to the light from the light source. Therefore, Feenstra fails to disclose the claimed feature: a color conversion cell for adjusting a color or color temperature of light from a light source having a first emission spectrum.

Furthermore, claim 5 also requires:

*“the color conversion cell being shiftable between at least a first state wherein the color converting substance will
absorb a first ratio, A1, of light incident on the cell,
emit light with the second emission spectrum, and
transmit a second ratio, T1, of light incident on the cell.”* (Emphasis added)

Feenstra, paragraph [0045], apparently discloses that oils have different colors by using different dyes to realize a color display. However, Feenstra does not disclose that the oils or dyes emit any light. Feenstra, paragraph [0031], discloses the oil is opaque or reflective, but does not disclose that it is emissive. Therefore, Feenstra fails to disclose the claimed features: the color conversion cell being shiftable between at least a first state wherein the color converting substance will absorb a first ratio, A1, of light incident on the cell, emit light with the second emission spectrum, and transmit a second ratio, T1, of light incident on the cell.

Therefore, for at least the above reasons, claim 5 is patentable over Feenstra. Withdrawal of the rejection of claim 5 under 35 U.S.C. §102(b) is respectfully requested.

The Office Action rejects claims 9 and 12 under 35 U.S.C. §102(e) over Li et al. (US 2004/0150613 A1), hereinafter “Li.”

Applicant submits that for at least the following reasons, claims 9 and 12 are patentable over Li.

For example, claim 9 requires:

*“the color conversion cell being shiftable between at least a first state wherein the color converting substance will
absorb a first ratio, A1, of light incident on the cell,
emit light with the second emission spectrum, and
transmit a second ratio, T1, of light incident on the cell,
and a second state wherein the first ratio, A2, is smaller than in the first state and
wherein the second ratio, T2, is larger than in the first state.”*

Li, Abstract, apparently discloses that reflective particles and photoluminescent particles are moved within the bodies of liquid by the application of electric field. However, Applicant submits that Li does not disclose that the application of an electric field would have an effect on the ratio of absorption or the ratio of transmission by the color converting substance. Therefore, Li fails to disclose the claimed features: the color conversion cell being shiftable between at least a first state wherein the color converting substance will absorb a first ratio, A1, of light incident on the cell, emit light with the second emission spectrum, and transmit a second ratio, T1, of light incident on the cell, and a second state wherein the first ratio, A2, is smaller than in the first state and wherein the second ratio, T2, is larger than in the first state. Therefore, claim 9 is patentable over Li.

Similarly, claim 12 requires:

*“adjusting a voltage between the two electrodes to increase or decrease the
amount of source light absorbed by the color converting substance and the amount of
light with a second emission spectrum emitted by the color converting substance.”*

Applicants essentially repeat the above arguments for claim 9 and apply them to claim 12 pointing out why Li fails to disclose the feature: adjusting a voltage between the two electrodes to increase or decrease the amount of source light absorbed by the color converting substance and the amount of light with a second emission spectrum emitted by the color converting substance. Therefore, claim 12 is patentable over Li.

Withdrawal of the rejection of claims 9 and 12 under 35 U.S.C. §102(e) is respectfully requested.

35 U.S.C. §103

Under 35 U.S.C. §103(a), the Office Action rejects claim 8 over Fukao in view of Hikmet (5,762,823); claim 10 over Li in view of Hikmet (5,762,823); and claim 11 over Li.

However, Applicant submits that Hikmet, either singly or in any combination with Fukao and/or Li fails to bridge the feature gap as pointed out above with regard to the independent claims and the features missing in Fukao or Li. Therefore, claims 8, 10 and 11 are patentable because they respectively depend from claims 1 and 9, with each claim containing further distinguishing features. Withdrawal of the rejection of claims 8, 10 and 11 under 35 U.S.C. §103(a) is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that all the claims pending in this patent application are in condition for allowance. Entry of this amendment, reconsideration, and allowance of all the claims are respectfully solicited. In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

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